KPBS

By Maureen Cavanaugh, Hank Crook
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What Role Could Water Reclamation Play In San Diego's Future?

Last week, the city council voted to take San Diego one step closer to using recycled wastewater for drinking water. We talk to representatives from the San Diego Water Department, and the County Water Authority, about how water reclamation fits into their long-term plans for the region. We also talk to Bruce Reznik, from San Diego Coastkeeper, and a representative from the Orange County Water District.

MAUREEN CAVANAUGH (Host): I'm Maureen Cavanaugh, and you're listening to These Days on KPBS. After years of intense opposition, the City of San Diego is now moving forward with a test program to recycle waste water. Last week, on a 6 to 2 vote, city council members awarded a contract for the construction of a demonstration facility to clean water. The program is called Indirect Potable Reuse, where waste water is treated to drinkable standards. The city is still years away from putting any of that water into our faucets, but supporters of water recycling and conservation say the council has taken an important step toward creating a sustainable water supply. Joining me to discuss just what this new pilot program will do are my guests. Marsi Steirer is deputy director of the San Diego Public Utilities Department. Good morning, Marsi.

MARSI STEIRER (Deputy Director, San Diego Public Utilities Department): Good morning, Maureen.

CAVANAUGH: And Bruce Reznik is executive director of San Diego Coastkeeper. Bruce, thanks for coming in.

BRUCE REZNIK (Executive Director, San Diego Coastkeeper): Thanks for having me.

CAVANAUGH: Okay, so Marsi, we hear that this is a pilot program, a test program. What will the city be testing?

STEIRER: Well, what we're going to be testing is we're going to be evaluating the use of advanced water purification technology and the feasibility of producing water that can be sent to a local reservoir and blended with imported and existing runoff water.

CAVANAUGH: Okay, so when – that's the purpose of the testing. How will the water itself be tested?

STEIRER: It – The water – Well, we're building – And that was the contract that you mentioned…

CAVANAUGH: Right.

STEIRER: …associated with the city council vote last week. We're calling that the advanced water purification facility and there are three treatment steps that water, that is recycled water treated to tertiary level, will go through. At each step the water will be tested and put into jars and sent to a lab and as a part of – and that will go on for approximately 12 months. All that information, in terms of the purity of the water as well as the integrity of the equipment, basically how well it works, will be put into a final report that will be presented to the city council in about two years.

CAVANAUGH: So just to be clear, this, in and of itself, is not a new technology. I mean, people have been doing this sort of recycled water, the potable reuse, in other areas, is that right?

STEIRER: Yes, in Northern Virginia, in Fairfax County by Dulles Airport, they've been doing it for more than 20 years.

CAVANAUGH: But we just want to see if our facility is working properly?

STEIRER: Well, regulatory-wise, our regulators want us to actually use our local water and test it in the San Diego environment. There's also a component of the study, and this was a contract that was approved by the city council last summer, to actually study the reservoir and how if advanced treated recycled water is introduced into the reservoir what happens.

CAVANAUGH: Now this water, as I understand it and as we've been reporting here, and, indeed, it's part of the title, potable reuse, is cleaned to drinkable standards. But this won't be going into our city's drinking supply, is that correct?

STEIRER: Not during this stage, no.

CAVANAUGH: Okay. Will it go into the current recycled water system? The purple pipes?

STEIRER: Yes, that's correct.

CAVANAUGH: And when are you hoping to have this test center built and up and running?

STEIRER: I anticipate by the second quarter of next calendar year, so, say, April. And one aspect of the demonstration project which I think is really important in terms of public involvement and understanding is it will be open and available for tours.

CAVANAUGH: Oh, so anybody can come in and see what's going on.

STEIRER: Exactly.

CAVANAUGH: I see. I'm speaking with Marsi Stierer. She is deputy director of the San Diego Public Utilities Department. I want to bring Bruce Reznik, executive director of San Diego Coastkeeper, into our conversation. And, Bruce, I know that you've been a big advocate for water reclamation for a long time. Explain to us why you think the council's decision to move forward on this test facility is a win for San Diego.

REZNIK: Well, I think it's a huge win not only for San Diego but really for all of California. You need to understand what the problem is and why enhancing our local water supplies is so important. We are not a water secure region. We import well over 80% of our water in the city and in the county and that importation of water has tremendous impacts environmentally. It is destroying the bay delta ecosystem up north, the Colorado River. It's very expensive and getting more expensive. It's projected to almost double in the next 5 to 10 years because we're losing water, literally, on our planet. You know, people talk about a drought, it's not a drought, it's a trend. We are losing water with climate change and at the same time there's more people trying to get water from the delta and from the Colorado River system, and so we're at a situation in San Diego where we don't have water reliability. If one thing happens to the state water project or some of our transfers from the Colorado River and we don't have enough water for our populous. What is great is the city is starting to proactively look and be visionary and think how do we enhance our local water supplies? Well, what are the most cost effective

environmentally friendly, energy efficient, reliable, safe strategies? And from our perspective, number one, obviously, is conservation and efficiency. And San Diego's done a pretty good job over the last few years and even longer but we need to do more. We need to invest very, very heavily in conservation and efficiency. But from our perspective, the second best option is potable reuse. It is significantly cheaper and more energy efficient than technologies like desal. It's cheaper than purple pipe, and it provides what we need, which is drinking water which, frankly, is a higher priority than more lawns or other types of uses. So, for us, this is the kind of thing the city needs to be moving forward and really needs to lay out a vision for how we're going to enhance our local supplies.

CAVANAUGH: Now, in the beginning I said that this has been a long battle. There has been intense opposition to the idea of recycling waste water, especially to drinkable standards here in San Diego. And I'm wondering, what – since you've been in the trenches, so to speak, and working for this for such a long time, Bruce, what do you think has changed minds?

REZNIK: Well, I think part of it is situational. Part of it is just the fact with the drought and more focus on the need to enhance water supplies, I think there has been extensive education and, as a matter of fact, as part of the pilot, there's an education component. I think people recognize more and more that we already are drinking the dreaded toilet to tap and the fact that the state water project and the Colorado River, there is hundreds of millions of gallons of sewage in addition to industrial discharge, runoff, agricultural waste, all sorts of other things that go into that water supply that becomes our drinking water in San Diego, our reservoir water. And, frankly, is not treated to the same level as what we're looking at with this IPR project, Indirect Potable Reuse, which is much more effective at getting out the pharmaceuticals, the cosmetics, the emerging contaminants. The other thing I have to really credit is, you know, A, there's been much more political leadership and we really owe it to a lot of the folks that some of them aren't on the council anymore like Scott Peters and Jim Madaffer and Toni Atkins, many of the council members who are on now who have taken a leadership role like Donna and Ben Hueso and Todd, who was in earlier, and Marti Emerald, and some of the folks that were willing to get educated. You know, Kevin Faulconer toured the Orange County facility. You're going to be talking to Phil Anthony who helped host Kevin. Tony Young was willing to get really educated and break ranks with his district, so we're starting to see that leadership. And at the same time, we have the broadest based coalition supporting this thing you will ever see in San Diego. I've taken some heat for calling it unprecedented but I don't know when you see the environmental community unified with Building Industry Association, the

Taxpayers Association, the chamber of commerce, BioCom, labor unions, technical groups like the Friends of Infrastructure. We've gone to hearings where there hasn't been a single person opposing this project.

CAVANAUGH: Well, there wasn't a single voice heard in public comment before the vote was taken.

REZNIK: Exactly. And, you know, where did you think that would come from? You know, ten years ago, to a point where I've been to many hearings where there's been, you know, if anything, maybe one voice opposed and here you have as broad a base coalition supporting us as I've ever seen.

CAVANAUGH: Do you think that, as you mentioned, that the dreaded phrase toilet to tap, do you think that that – We talked a little bit about that yesterday on our political segment. Do you think that really set back the cause a great deal?

REZNIK: It absolutely did, and I think people misunderstand. I think a lot of people thought it was project proponents that came up with this term as a catchy way. It wasn't. It was opponents that were trying to sink the project and of course we have a – you know, Marsi and I talk about this all the time. We have a difficult decision in San Diego. Do you embrace the term because people know it? Or do you move away? And I'm in the minority that says brace – embrace the term because other than Marsi, I don't know anybody who's spoken about IPR, Indirect Potable Reuse, more than I have in San Diego to groups and if you don't use the term, you're going to get the question, are you talking toilet to tap? And it looks like you're lying or, you know, somehow not being straightforward. Or, you know, I'll finish a whole talk about why Indirect Potable Reuse is good and reservoir augmentation and water purification and people go, oh, yeah, I really support that purple pipe, you know, or irrigation and they don't get it. And, to me, and maybe not in other places in San Diego, everybody knows the term. If you're not using it, I think it looks like you're hiding the ball, so I'm all about owning it and saying we're drinking toilet to tap already, this is cleaner than what we have currently, it's cheaper, it's more energy efficient, more environmentally friendly, and let's embrace it.

CAVANAUGH: Now, you – I'm speaking with Bruce Reznik. He's executive director of San Diego Coastkeeper. Marsi Steirer is here as well, deputy director of the San Diego Public Utilities Department. I'd like to bring into our conversation right now, someone that you mentioned, Phil Anthony. He's a director of the Orange County Water District. And, Phil, good morning. Welcome to These Days.

PHIL ANTHONY (Director, Orange County Water District): Good morning, Maureen.

CAVANAUGH: Now, as Bruce mentioned, I suppose you took some of our council members on a tour of your facility in Orange County. How long has Orange County been recycling water for drinking purposes?

ANTHONY: Well, altogether, back to about 1975, ’76.

CAVANAUGH: Umm-hmm.

ANTHONY: We had a much smaller plant for many, many years, over 30 years, and we just recently built a much, much, much larger plant which is the one that some of your folks have toured. That plant’s been in operation now just over two and a half years with a very, very perfect record, in fact, of producing extremely high quality water, which in our case the water goes into our large groundwater basin, which is part of our drinking water supply, of course.

CAVANAUGH: Now you have a different system up there. I mean, you have an aquifer that we don’t have down here. Is that correct, Phil, so that…

ANTHONY: You’ve got a few little ones…

CAVANAUGH: Umm-hmm.

ANTHONY: …but we have a very big one, which covers most of northern Orange County. There’re about 2.4 million people sitting on top of our aquifer and they get over 60% of their water from the ground.

CAVANAUGH: I see.

ANTHONY: The local ground, which is hugely different that San Diego, which you’re like 80-plus percent on imported water, the same as southern Orange County.

CAVANAUGH: Exactly right. Now tell us how – what did you do to sell the idea of this reuse, the potable reuse recycled water?

ANTHONY: Well, we did a lot particularly because San Diego scared me to death back in the late nineties when you had that horrible political toilet to tap fight going on. The trouble you had was that it became a public political issue before

people understood it. And you had politicians campaigning on the issue, either for or against the toilet to tap, and in your elections of 1998 all the people that were halfway supporting toilet to tap lost their elections and that really, you know, got our attention because we were just then starting the preliminary design of our big project. So we went on a massive public outreach, public education approach, got a couple of experts who are really good at public communications and we went to the people. And we went to all the elected officials, too, from the council members on up to Congress and got their understanding and their support and we've kept it ever since. So we really went out to the public, all the interest groups, the service groups, the medical profession, the chambers of commerces, everybody, and pretty much got basically 100% support for the project but we did it by telling the truth and by answering all their questions and keeping them fully informed. And we never tried to hide what it was. It was sewer waste water, the toilet water, you might call it, going to drinking water.

CAVANAUGH: Right.

ANTHONY: And it's extremely successful. We – Up to this date, thank goodness, we have no opposition at all and, like I say, we're now producing 70,000 acre feet a year of water, that's 70 million gallons a day. That's enough water to meet the needs of 560,000 people, so it's a huge part of our water supply. And, of course, San Diego needs this even more than Orange County did but – so I'm strongly supporting what you're doing down there.

CAVANAUGH: And, Phil, how much money do you think Orange County is saving by not having to import that water?

ANTHONY: Well, when we started out, we were trying to make sure that the product was about the same as imported water costs. But since we started our work, bac in 1990, plus or minus, you know, the early design, imported costs have gone up dramatically so – and our costs have actually gone down as we've learned to run the plant more efficiently. So right now our costs are less than imported water. Our big plant now is producing the purified water at just a little over $600.00 an acre foot and imported prices are now up, in your case, are the highest in the state, but they're up around $800.00-plus an acre foot. So…

CAVANAUGH: Now what are – Phil, I'm wondering, what are the next steps in the process for Orange County Water District? Do you plan to expand the recycling facilities?

ANTHONY: Funny you should ask. That's exactly what we're doing. Because, as Bruce said earlier, you know, the imported supplies are getting to be so stressed and so unreliable, really, that we – we're right now finishing the design of a 30,000 acre foot a year expansion to take the entire plant up to 100,000 acre feet a year, so that's just to meet our needs. I mean, we're not doing it just to prove we can. We actually need to have that reliable supply. And the other advantage of this kind of recycled water, Indirect Potable Reuse, is that it's entirely a local controlled supply of water. The water's here anyway because the people are here and they're creating the waste water so we don't have to worry about imported water or don't have to worry about the weather. It's a very reliable supply every day of the year.

CAVANAUGH: And just to make things crystal clear, so to speak, Phil, people are drinking this water in Orange County.

ANTHONY: Oh, sure. It goes through the groundwater basin first…

CAVANAUGH: Umm-hmm.

ANTHONY: …but, yes, they're drinking it.

CAVANAUGH: Absolutely. Thank you so…

ANTHONY: I tell you, it's extremely pure water. You know, it's about…

CAVANAUGH: Right.

ANTHONY: …the purest water you can find, very, very close to distilled water and much purer than any other source of drinking water you can find.

CAVANAUGH: Phil, thank you so much.

ANTHONY: Absolutely. Glad to be with you.

CAVANAUGH: I've been speaking with Phil Anthony. He's director of the Orange County Water District. And we're going to come back and speak now with Bruce and Marsi. And, Bruce, I'm wondering, I'm intrigued by something that Phil said about him being scared about what was happening down here in San Diego County. How did this debate over Indirect Potable Reuse become so political here in San Diego?

REZNIK: Politics.

CAVANAUGH: Uh-huh.

REZNIK: You know, it actually predates me. I came down to San Diego in 1999 so I was just sort of at the tail end. I think there's some debate in terms of how much the political debate was reflective of sort of a groundswell of opposition for the public or if, in fact, it was the political debate that fanned the opposition. I tend to think it was the latter. I think it, for some reason, became a political hot button issue, some people wanted to use that as an issue, and as it became publicized they sort of fanned the flames and people's fears came out. I think it's a very different situation now. I think the politicians realize and, like I said, I think you're seeing a lot of political leadership. We can't afford to politicize water in San Diego, and the public is getting much more educated. There were studies and actually one the city undertook several years ago that showed there was slightly more folks opposed to toilet to tap or Indirect Potable Reuse than supported but once you educated about the treatment levels and where our current supplies, it actually turned fairly quickly. And the most recent study by San Diego County Water Authority actually showed 63% of the public supporting even without a lot of explanation. I think that demonstrates people are getting educated and they recognize we need to do something to enhance our local water supplies. We're not a secure city right now and our policies are having really grave environmental impacts as well as economic impacts and other than conservation and efficiency, this is about the best way to go.

CAVANAUGH: Marsi Steirer, we just heard Phil Anthony tell us about the program they have up and running in Orange County, I'm wondering, what are some of the challenges we face here in San Diego if we want to implement a similar system to what they have in Orange County?

STEIRER: Well, Phil touched upon the fact that they did extensive public outreach and briefed throughout their region as well as the local elected officials. And we've basically noted their success and our public outreach program is patterned upon what Orange County did. So what we've done is put together a comprehensive public outreach and education program. I'd mentioned the tours. We have a speakers bureau. We have a lot of information on our website. If any of your listeners is a part of a community group or a service club and would like us to come out and speak to them, the phone number is 619-533-7572. We hope to go throughout the city as well as even the region, that one of the aspects of this project now that's a little bit different than the proposed project, the repurification project back 10, 12 years ago, is San Vicente Reservoir is greatly expanding in size and it's a regional facility so that means if the city were to implement a full scale

project, which would be phase 3, depending upon the results of the demonstration project, that water in San Vicente Reservoir would go basically regionwide.

CAVANAUGH: Right, and we – we're going to be talking about the implications of the city plan to all of the county in just a moment but I wanted to hone in on the technical differences between Orange County and San Diego. Now this treated water is going into our reservoir. Is that – that's not something they do in Orange County.

STEIRER: No, in Orange County it's – goes into their groundwater basin.

CAVANAUGH: Right.

STEIRER: And then it become – it goes into their water distribution system where it then goes directly to people's houses. So it resides in the groundwater basin for a certain period of time and then it's distributed throughout the region. The difference is what we're proposing to do with the full scope project is this advanced treated recycled water would go into a reservoir where it would stay for a specified period of time, go to one of our drinking water plants and then be distributed.

CAVANAUGH: I see.

STEIRER: So there's an extra element of treatment that we're doing in addition to the residence time in the reservoir.

REZNIK: And the other thing that I just wanted to jump in and talk about that, is there's, I think, a perception that some folks in the public have that, you know, somehow filtering it into the groundwater treats it more and is safer than putting it in reservoirs. If you talk to the folks in Orange County, and I have extensively, the water is as pure as it's ever going to be when it comes out of the facility. As a matter of fact, when I've taken the tour, I've – you can drink the water if you go up to Orange County right as it comes out of the facility. The filtering through the groundwater does nothing to add treatment to it. And, in fact, there's some experts, and I heard Dr. Rick Gersberg, a local expert at San Diego State, Department of Public Health, talk about how, in fact, the reservoirs might get some additional treatment because the sunlight actually is very good at breaking down pollutants, so I think the most important thing to know is it's really as pure as it's ever going to be when it comes out of the facility. It doesn't get extra treatment from filtering through and, if anything, putting it in reservoirs is just as safe or safer.

CAVANAUGH: Let's bring in another guest into the conversation. Toby Roy is on the line, he's water resources manager with the San Diego County Water Authority. I'm sorry, Toby is a she. Good morning, Toby.

TOBY ROY (Water Resources Manager, San Diego County Water Authority): Good morning.

CAVANAUGH: Now what kind of water reclamation fit into the County Water Authority's long term plan is this for our region?

ROY: Well, back in the early nineties the Water Authority began diversifying its water supply. And some of our key supplies are the quantification settlement agreement, seawater desalination, and recycled water as far as our new water supplies. Currently, we have about a goal of 6% recycled water in 2020 and that is for nonpotable use. If the city continues to proceed with their project and it becomes a firm water supply, then we would incorporate that in our diverse water supply.

CAVANAUGH: I see. So what do you hope to learn from these – the projects that the city is doing? The building the demonstration facility. What is the – Is the county looking for – to learn something from that?

ROY: I think the biggest thing for the study that they're doing is really just to have the most current information on water quality. It can also provide information to the public, ability for the public to see how that treatment process works. I think we have a lot of confidence in the ability of the city to produce a water that is safe but that testing is needed to show the public and also demonstrate for the regulators.

CAVANAUGH: Now, let's say, Toby, this goes very well and the test facility produces water and the public is on board with this whole idea, what kind of authority does the County Water Authority have? Could you possibly begin building water recycling, Indirect Potable Reuse, facilities yourself?

ROY: I think the whole thing would really be up to what does the city want to do and how do they want to proceed and, as well, what would our board of directors want to do.

CAVANAUGH: I see. Now, when – are you for this plan? I – That's a very crucial question that I've failed to ask.

ROY: I think we're absolutely for it. It's a local water supply, it's a reliable water supply. It's safe and with our current water situation, we really need to look at developing local reliable water.

CAVANAUGH: And the County Water Authority is completely on board when it comes to, what was it, Marsi, you said, the final phase of this test program or the next phase where the water would be put into the reservoir.

STEIRER: A full scale project.

CAVANAUGH: Full scale project, are you – is the County Water Authority fully supportive of that if it goes to that point?

ROY: I would say we are. Our board has taken a position of supporting Indirect Potable Reuse and we would support that.

CAVANAUGH: Well, I thank you so much for joining us today.

ROY: Okay, thank you.

CAVANAUGH: That was Toby Roy, a water resources manager with the San Diego County Water Authority. And my remaining guests are Bruce Reznik and Marsi Steirer. There's also another study going on that your organization is involved in, Bruce. It's a $2 million regional assessment to determine our ability to recycle water in San Diego. What are you hoping to learn with that study?

REZNIK: Well, we're looking – What we're hoping to, from that study, is figuring out exactly the question you asked, where, within the city and regionally, we can identify and develop other reclamation facilities. So these studies tend to get conflated a good deal, these – the pilot or the demonstration project and this regional assessment. The pilot project is really focused at our existing reclamation facilities, North City, which is underutilized currently because it's just too expensive to build purple pipe for irrigation throughout the city. And so there's about 16 million gallons a day on average that is underutilized. There's also a potential expansion possibility at North City, so the pilot project or the demonstration project is really aimed at figuring out is this safe and clean and healthy in San Diego and, if so, we have this opportunity to, you know, build a full scale project to maximize reclamation, taking water from North City, putting it in San Vicente but still, at best, that is a fairly small percentage—important, but a small percentage of our water usage in San Diego. Meanwhile, we are discharging from the Point Loma sewage facility alone 150 million gallons a day. And if you

look citywide and countywide, it's much higher than that. We should be looking at the scale that Orange County or other places are looking at where we're talking 70 million gallons a day, 100. We want to get to a point ultimately where we are not discharging any sewage into the ocean, we're reclaiming all of it. It is too valuable a resource for us to be investing, you know, billions and billions of dollars to treat it and discharge it in the ocean. We need to figure out how to reclaim that, and that's what this regional assessment is geared at. The timeline is very similar so, hopefully, the demonstration project will demonstrate it's clean, it's safe, it's healthy, we can do this at North City, we can put water in San Vicente and at the same time we'll be gearing up with a plan where we can identify the next project or projects to reclaim 10, 20, 50 or even 100 million gallons a day citywide, and then you're talking about a major component of our local water supply.

CAVANAUGH: Now I know, Bruce, that the San Diego Coastkeepers have broken ranks with other environmental groups around the country in the sense of not opposing San Diego's waiver of secondary treatment at the Point Loma facility because you've made it contingent on the city pursuing these other water reclamation programs. And I'm wondering, what's the rationale behind that?

REZNIK: Well, I think the rationale is what we've been spending this time talking about. You know, the city is the largest sewage agency in the country that does not treat to secondary standards. We treat to advanced primary where larger than all the other exempt agencies combined. And out of 16,000-some-odd sewage agencies, really a couple dozen are the ones that don't treat to secondary. It would cost a lot of money. It would cost about a billion dollars or more and historically we have opposed that exemption. We sued over it back in the early 2000s. We came to the same recognition, though. Not that we don't think improving our treatment would be better for the ocean. We believe it would be. Not that we like the waiver exemption, we don't. But at this point in time when we are so impacted by our lack of water supply and the increasing drought and the pressure that places, to us it no longer made sense to talk about a billion dollars for treating sewage a little bit better and discharging it in the ocean. It just wasn't a good investment. We should be thinking about how we reduce discharges or eliminate. And the local environmental community actually was all on board. All the local groups recognized the importance of this and even the state and national organizations that opposed the waiver, and I got some unflattering phone calls about, they believe in the same end game, which is we shouldn't be talking about advanced primary to secondary, we should be talking about reclamation. They just thought we could put more pressure on the city by continuing to fight the waiver and engaging in litigation which, of course, they were entitled to do if they wanted. We actually

thought there had been enough change in the political leadership that we could work cooperatively and, you know, Coastkeeper's known as an advocacy group. We do litigate, we do, you know, beat up people when we have to but if we can work cooperatively, that is always our first option. And we felt this was an opportunity that we could actually work cooperatively and, frankly, I've been thrilled at not only the way the demonstration project is proceeding and the education and outreach components and all that but the regional assessment is going great. Our expert was actually Dr. Bruce Bell, who's out of the east coast, was just in for a few days, meeting with all the city's technical experts and I think we're going to show that we can really do widespread and large scale reclamation in San Diego.

CAVANAUGH: Marsi, my last quick question to you. What is the timeline we're looking at? When will we see water start coming out of this test program?

STEIRER: For the demonstration project?

CAVANAUGH: Yes.

STEIRER: It will be operational next April. And the final report we're estimating will be presented to the mayor and city council in the summer or early late summer of 2012.

CAVANAUGH: And, as you pointed out, people can go and see it being made.

STEIRER: That's right.

CAVANAUGH: I want to thank you both so much. Thank you, Bruce Reznik. Thank you, Marsi Steirer. Thanks for coming in and speaking with us.

STEIRER: Thank you. It's our pleasure.

REZNIK: Yes.